Handout 6

Committee Correspondence
Name of Committee: ATSRAC Task Group 4

Date: September 28, 2000

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To:

Kent Hollinger, ATSRAC Chairman

Charles Huber, ATSRAC Executive Director

Attached is our proposed Final Report. We are sending it to you in advance of the October 11-12th meeting, so it can be circulated to all the members of ATSRAC prior to this meeting.

If you have any questions or comments, please phone me at the number above.

— Dave Allen

Copies to ATSRAC Task Group 4 Members:

Ric Anderson
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FINAL REPORT ATSRAC TASK GROUP 4 September 28, 2000

Introduction

ATSRAC formed Task Group 4 to accomplish the following tasks:

4.1 Define standards for a simplified Chapter 20 to be created by the user organization and based on the manufacturer's omnibus Chapter 20, Standard Practices for Wiring. Propose a standard method of developing simplified standard practice documents through a working group involving the ATA specification. Define operator specific information, which should be developed such as "standard repairs" developed by the airline because of operator-specific problems. Consider appending this material to ATA Specification 100. Update additional wiring practice data sources such as ATA Spec 117, AC43.13-1B, the draft AC on avionics corrosion, AC25-16 and other sources for reference. Include results from reports from Task Group 1 & 2 plus the Intrusive Inspections as part of the reviews.

4.2 Define a process for training development based on the airlines customized Chapter 20. This training process should be in a format that is easily assimilated into the training for repair stations, air carrier and non-air carrier operations. This should be integrated with the work of Task Group 5.

The volunteer members appointed to Task Group 4 are:

From the Airlines: Dennis Lee of Canadian Airlines, Johan Muller of American Trans Air and Bob Sitz of Delta Airlines

From the Aircraft Manufactures: Morris Frimer of Boeing and Anthony Poole of Airbus/EADS

From the Authorities: Jeffery Phipps of Transport Canada and Fred Sobeck and Brett Portwood of FAA

From the Associations: Ric Anderson of ATA, Claude Cuy-y-Mola & Phillipe Boutet of Aerospatiale Matra for AECMA, Dan Strachan of NEMA and from Aerospace Div. of SAE Dave Allen (TG4 Chair)

Accomplishments

Task Group 4 has held four meetings on January 21, March 17, June 15 & 16 and September 7 & 8. During the meetings standards and manuals were discussed and the members then provided updates and reviews to the FAA and ATA. An updated ATA 117 was agreed upon and updates to AC43.13-1B, AC25-16 and AC43 XX were received by the FAA representative. Presentations were made on the Boeing and Airbus Standard Practice Wiring Manuals, on the Non Intrusive Inspections. The members also reviewed the report from Task Groups 1 & 2 on the Non Intrusive Inspections and the Service Bulletin Reviews. At our last meeting a presentation was made on the preliminary results from the Intrusive Inspections.

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Recommendations

The consensus of the members of Task Group 4 consists of the following recommendations to ATSRAC:

1. There are several reasons why simplification of the Wiring Diagram Manual (WDM) Chapter 20 manuals by users is not recommended:
   a. Would result in different standards from one airline to another.
   b. It would not be practical for the user to do this.
   c. The users need the details for inspection, maintenance and repair that are currently in the manufacturers WDM Chapter 20.
   d. The subject of simplification is addressed in the other recommendations that follow.

2. Aircraft and component manufacturers should provide standard practices for care and maintenance of wiring systems. Some examples to be included as a minimum content are:
   - Cleaning requirements & methods
   - Wire & cable identification
   - Damage limits by wire/cable type
   - Installation limits / requirements dealing with clamping / support, bundle clearances, routing, etc.
   - Inspection methods
   - Repair / replacement procedures
   - Wire & cable replacement alternates, noting effectivity limits
   - General Maintenance practices in the aircraft maintenance, structural repair & component manuals to prevent damage to wire & cable during accomplishment of servicing, inspection or repairs
   - Types and number of splice repairs including time and location limitations for their replacement

Note: Available source data for these and other items include ATA117, AC43.13-1B, or AC43 XX (Corrosive of Avionics).

Reasons for this recommendation: Based on results in Task 1 & 2 report.

3. Add requirements in ATA 100/i2200 for standard practices for wiring systems. The ATA Working Group should define a structure of major sections for standard practices dealing with wire, cable and other components of the aircraft's electrical system in ATA 100/i2200. These may be included as a new chapter (19) within the aircraft maintenance manual or remain as Chapter 20 within the WDM. The structure should also make provisions for use by component manufacturers and lend itself to the classification of corrective action for reliability reporting by operators. Manufacturers would provide detail and content for the subsections.

   Reason: There is a need for requirements and format in ATA 100/i2200 for wiring systems, which are **not** currently covered.

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Recommendations - *continued*

4. Include in WDM Chapter 20 any standard practices that may be required to support any revised maintenance programs coming out of Task Group 3.

   Reason: To assure that these standard practices are included in WDM Chapter 20.

5. Assess changes in standard practices for wiring systems, which are brought about by recommendations in final report from the Intrusive Inspections.

   Reason: To continue the updating process for the standard manuals.

Comment: The Task Group addressed the task of defining operator specific information for standard repairs, etc., and makes the following statement:

> Operators presently can customize their manuals, including the aircraft maintenance, structural repair, component maintenance, wiring diagram, wiring parts list, aircraft and wiring standard practices manual by making additions or supplements using their established methods and procedures approved by the FAA. Thus, this portion of Task 4.1 is already being done by the airlines.

4.2 Define a process of Training Development

Recommendations:

1. Establish the requirement for recurrent qualification training of maintenance technicians to include WDM Chapter 20 content, with particular attention to aging concerns including:
   - Safety
   - Degradation of wire installations
   - Corrosion of components
   - Contamination due to chemically active material
   - Accumulation of dust, lint, debris
   - Damage prevention and cleaning

2. Encourage all applicable training programs to highlight prevention as number one and "clean-as-you-go" approaches to reduce potential for compromising nearby wiring installations.

3. WDM Chapter 20 standard and supporting documentation including ATA Spec 117 and applicable FAA circulars should be included as source data to create a training program.

4. Highlight the "human factors" element during training for all disciplines to assure that standard practices are followed.

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Conclusion

The above recommendations have the consensus of the Task Group 4 members. The members of the task group are to be congratulated for their extensive reviews of specs and standards between meetings and for their presentations and deliberations during the meetings.

If this report is accepted by ATSRAC, the task group members feel their assignment is complete and no further meetings are necessary. If additional work is assigned by ATSRAC, we have set a tentative date of Oct. 27th for an additional meeting.